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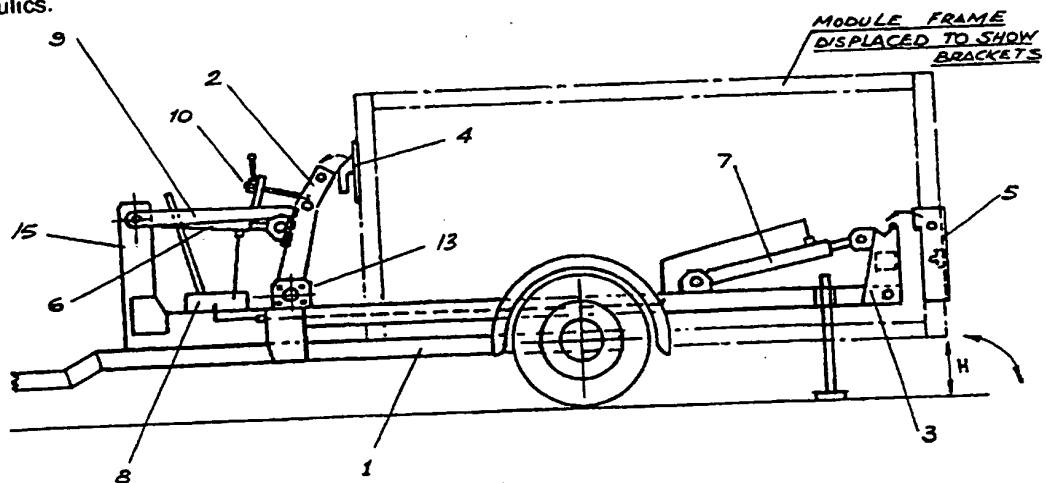
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(58) Field of Search
UK CL (Edition O) B8E, B8Q Q2F2
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(54) Container Handling Trailer

(57) A 'hitch-and-lift' trailer for transporting load-carrying modules, which can be releasably secured to an open-ended chassis 1. For transportation the module lies within the open chassis and is raised or lowered at both front and rear simultaneously using hydraulically operated pivoting arms 2 and 3 on the chassis which locate in fixed brackets 4 and 5 on the module. A hydraulically activated safety arm 9 is provided with the added security of a mechanical locking device 10. Preferably a manually actuated pump 8 powers the hydraulics.



SIDE VIEW OF 'HITCH-AND-LIFT' TRAILER

FIGURE 2.

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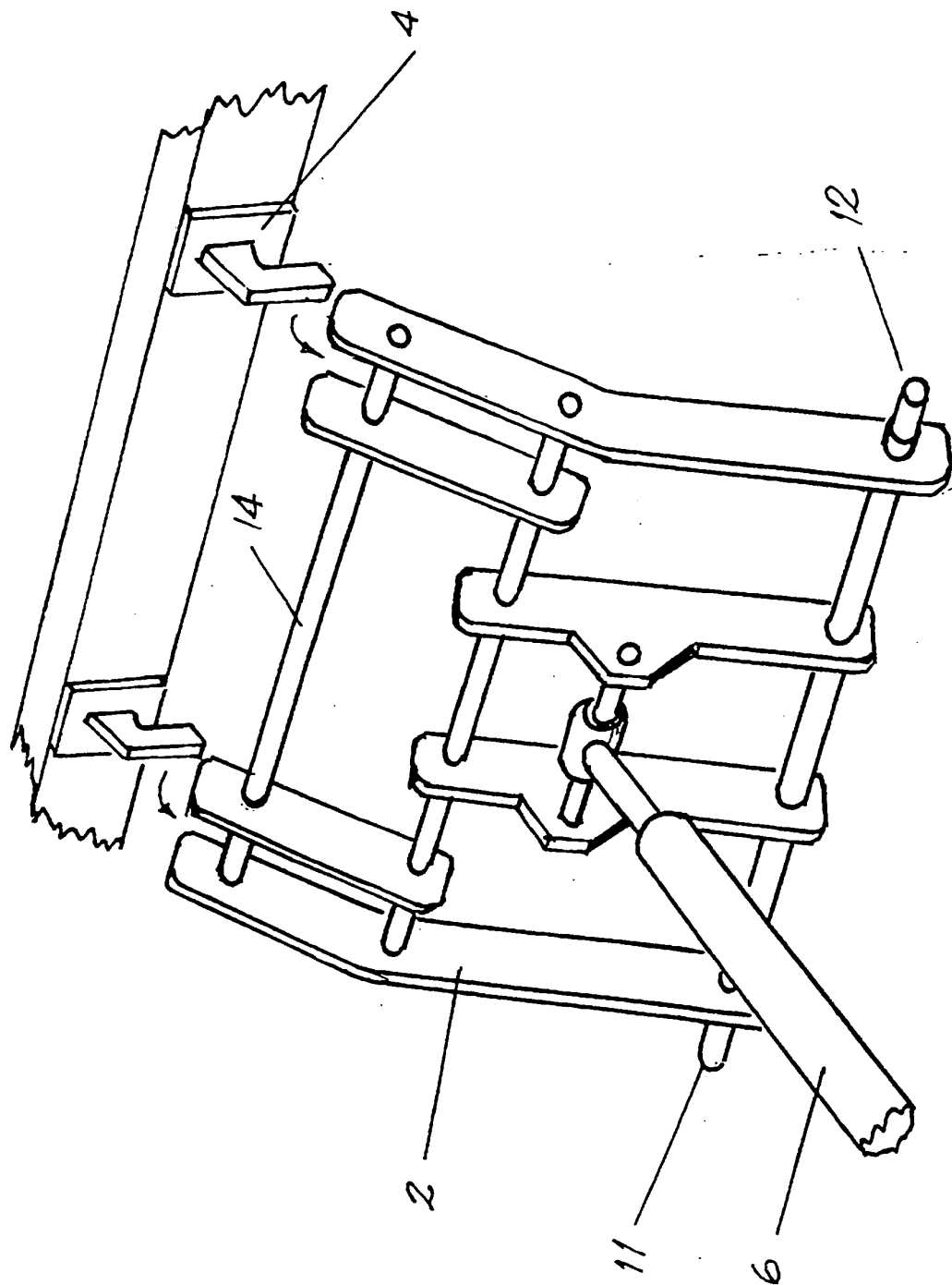


FIGURE 3
FORWARD PIVOT ARM ARRANGEMENT

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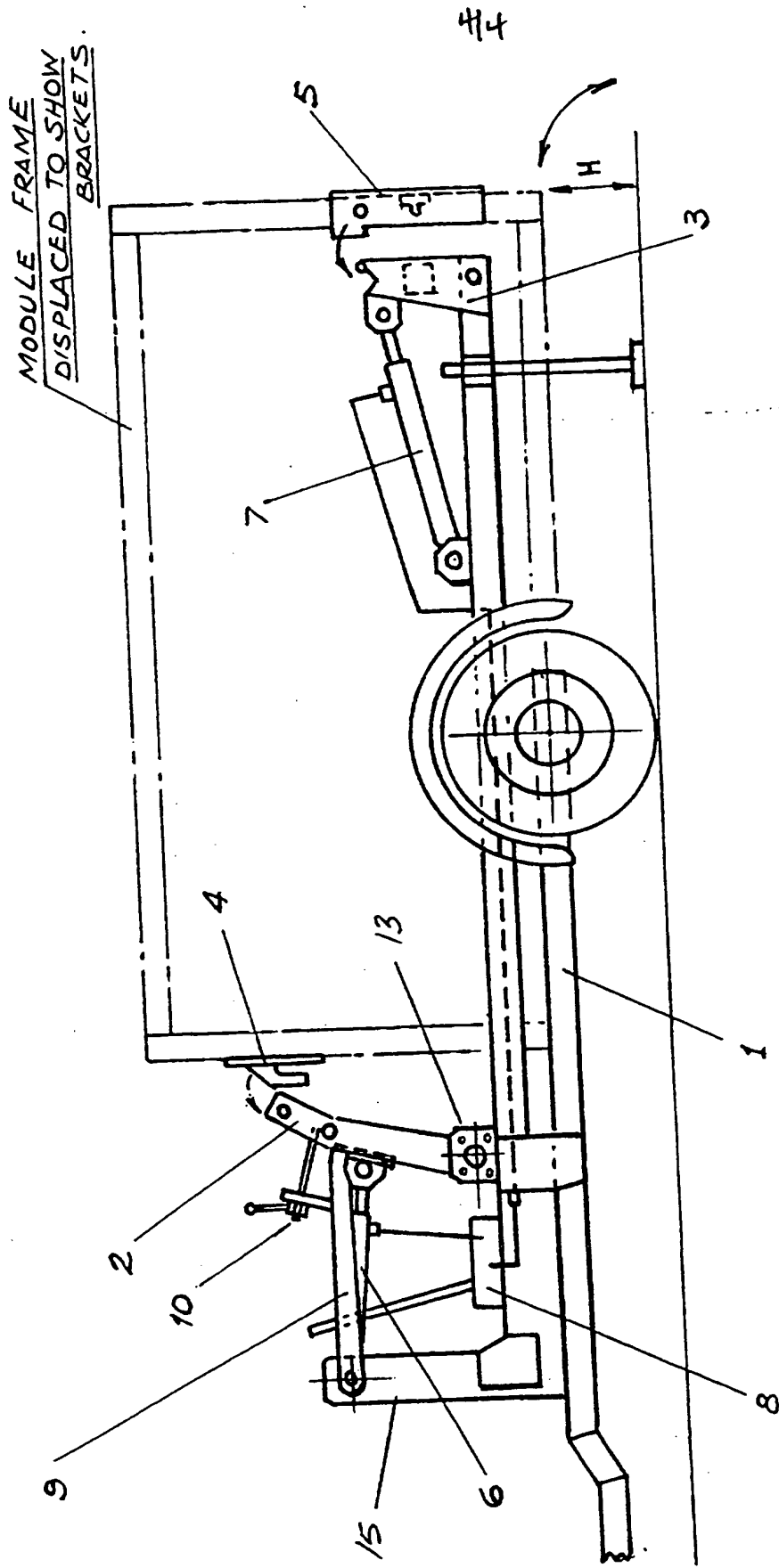


FIGURE 2.

SIDE VIEW OF 'HITCH-AND-LIFT' TRAILER

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It is acknowledged that there are methods, such as in the skip hire business where modules are deposited and collected. However, it is considered that in the context of public works operations the 'hitch-and-lift' principle provides an efficient and safe solution to many of the transport problems associated with these operations.

The 'hitch-and-lift' method will now be described with the aid of drawings.

- Figure 1 - Plan View Showing 'U' shape chassis construction.
- Figure 2 - Side view of hitch and lift trailer.
- Figure 3 - Forward pivot arm arrangement.
- Figure 4 - Rear pivot arm arrangement.

The basis for the trailer unit is a sturdy chassis 1, which is constructed in an open 'U' configuration (see figure 1). The opening is at the rear of the unit and wide enough to accept a module.

Pivoting members 2 and 3 positioned at the front and rear of the chassis respectively are designed to coincide with pick-up brackets 4 and 5 which are rigidly mounted on the module framework (see figure 2).

The pivoting members 2 and 3 are simultaneously, raised or lowered using hydraulic cylinders 6 and 7 which are activated using hydraulic hand pump 8.

For further clarification the functions of the forward and rear lifting arrangements will be described in greater detail.

As previously mentioned, simultaneous lifting at front and rear is desirable and achieved with the aid of hydraulic cylinders 6 and 7 operating pivoting arms 2 and 3.

Referring to figure 3 pivoting arm 2 comprises a framework of structural members. The base member 11 being a tube into which are fixed pivot shafts 12 which locate in bearings 13 mounted

Finally a manual locking device 10 is fitted as an extra precaution against the release of safety arm 9 in the unlikely event of hydraulic system failure.

Claims

What we claim is:-

1. A hitch-and-lift trailer unit with a sturdy chassis open at the rear end capable of accepting load carrying modules of variable geometry, but with lifting members of similar geometry.
2. A hitch-and-lift trailer unit as claimed in Claim 1 in which forward and rear lifting members are pivotally mounted to the chassis and activated simultaneously using hydraulic cylinders in order to raise and lower said modules.
3. A hitch-and-lift trailer unit as claimed in Claims 1 and 2 wherein a safety arm is provided to prevent accidental release of a module in transit, and wherein said safety arm is locked hydraulically.
4. A hitch-and-lift trailer unit as claimed in Claims 1, 2 and 3 wherein a manual locking device is provided to secure the said lever arm in the event of hydraulic failure.
5. A hitch and lift trailer unit as claimed in claims 1 to 4 in which the secured module becomes an integral part of the chassis structure when in transit.

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